.**Landbird Communities Monitoring Meeting**
August 29-30, 2007, Klamath Network Office

Participants: John Roth (ORCA), Elizabeth Hale (ORCA), Dave Larson (LABE), Michael Magnuson (LAVO), Russ Weatherbee (WHIS), Kristin Schmidt (REDW), Jaime Stephens (KBO), John Alexander (KBO), Daniel Sarr (KLMN), Sean Mohren (KLMN), Bess Perry (KLMN)

Wednesday, 8/29

Presentation by Marcello Araya, a Park Flight intern at the Klamath Bird Observatory (KBO), on his experiences this summer working with the KBO bird banding crew, the Park Flight program, and the field work and bilingual interpretation he completed at ORCA.

a) Park Flight (http://www.nps.gov/oia/topics/flight.htm) is a partnership between NPS, National Park Foundation, National Fish and Wildlife Foundation.
   i) Sponsored by Natural Resource Challenge and American Airlines.
   ii) Internship provides training and educational opportunities to professionals from Latin America.
b) Connections seen between Tortuguero Landbird Monitoring in Costa Rica and KBO Monitoring
   i) Sean – What can you (Marcello) apply from your internship?
      (1) Marcello – Bird banding techniques, patterns of molt in tropical species, banding station information.
c) Trainings in South America growing out of the program.
d) Carol is interested in the KBO and KLMN connection in programs like this.
   i) Sean – Interested in combining migratory data and material from different regions?
      (1) John A – A Redwood Sciences Lab post-doc is putting banding data in a database. We need to not just fund new programs, but also old ones to get the long-term datasets. Collecting and entering data are equally important.

Presentation by Sean introducing the Landbird Project and meeting agenda.

a) The four landbird monitoring objectives are:
   i) Monitor status and trends annually in breeding-bird richness and density for as many species as possible in relatively accessible areas of the parks.
   ii) Determine status and trends in habitat characteristics through habitat surveys at locations where bird observations are recorded and integrate with vegetation monitoring to further link changes in bird communities with habitat change.
   iii) Determine status and trends in demographic information (productivity, adult survival, recruitment) of selected landbird species at a mixed-conifer and riparian habitat at ORCA.

iv) Provide quantitative information about bird assemblages to aid in development of measurable indices of ecological integrity for terrestrial ecosystems of the parks.

b) Want the group to review the draft "20 steps process of protocol development in the KLMN" which was provided as a handout.
   i) Presented 4 steps in the process where parks staff have the opportunity for input into the protocol.

c) Goals for today:
   i) Select sampling frames in each park
   ii) Agree on timeframes for each park
   iii) Agree on what should be included in the annual and analysis/synthesis reports
   iv) Decide on monumenting sites
   v) Agree on what is enough opportunity for park input in the protocol process

d) General information to remember as we get into the details of this meeting
   i) To help with budgeting and efficiency, the KLMN and KBO will try to co-locate bird sites (from Landbird Protocol) and vegetation sites (from Vegetation Protocol).
   ii) There are two potential timeframes for surveying the parks.
      (1) 2 parks a year, each visited once in a 3 yr period, or
      (2) 3 parks a year, each visited once in a 2 yr period.
   iii) Sampling frame (>100m and <1000m from road or trail, Not on a slope >30 degrees, and in one or more of the sampling frames listed below):
      (1) Riparian – A buffered area around the lakes and streams.
      (2) High elevation – Only for Lassen / Crater Lake / Whiskeytown. Elevation differs for each park.
      (3) Matrix – Any area not considered high elevation or riparian.
         (a) Daniel – We recognize this design and categories are good at covering a range of conditions, but won't hit every area of the park.
         (b) Daniel – justification of sample sizes and the three sampling frames:
            (i) Example: only 25 samples needed at LABE (only matrix), but 75 needed at CRLA (high elevation, riparian, and matrix).

e) Annual reports will be produced each year a park is sampled and will include basic information about the work that was done and any changes to the protocol.

f) Analysis and synthesis reports will be produced once it has gone on for a while
   i) John A – protocols will be very specific about what the different reports will have in them. It's important to put a budget in there with enough money for the level of detail in the reports.

g) KBO Effort Reports will be provided each year that summarizes work done throughout the region by KBO, including in work done in the parks.

Presentation by John Alexander on the mist netting effort at ORCA

a) Intensive effort because it's a smaller park.

b) The KBO Monitoring Network is one of the world's densest monitoring networks
   i) It's also within the Landbird Migration Monitoring Network

ii) The KBO is trying to create a mechanism for capturing all data; no data left behind. It is estimated that the half life of data is 7 years.

c) In the capture summary of the mist net report, they detail the data from Oregon conservation species, NBII species of concern, and the OR/WA Westside coniferous forest plan.
   i) The datasets represent information from important habitats
   ii) KBO is trying to put all of the data up on the Avian Knowledge Network for other people to access (access has several levels of restriction)
   iii) There is a delayed trend seen in the data (i.e., don't see a trend until after the event has happened to cause it and the effects ripple out, a time delay)
   iv) Daniel – what's the scale of the data?
      (1) John A – Depends on analysis and how much the data are restricted. Parks are usually stable environments for the species.
   v) www.ebird.org/klamathsiskiyou - Anyone can put there checklists on the Avian Knowledge Network – casual to comprehensive checklists

d) Sean – mist nets take $10,000 from the budget and because of the large budget for a small park can possible take sites away from other parks. ORCA is willing to help fund the mist net effort, but KLMN will need to ensure the funding is always available so that there's no gap in the data and we wanted to make sure everyone is aware of the costs that go into the mist netting.
   (1) Daniel – has to be a good faith effort if going to continue; ORCA has to come through with at least 50% of the funding. They've been pretty good so far and we can occasionally supplement the money once and a while, but we need to write up something that says that the mist netting is contingent on park involvement.
   (2) Dave – wants to see in protocol the budget allocation of $5000 I&M and $5000 ORCA
   (3) John A and John R are enthusiastic and think it's valuable project
   (4) Daniel – what do parks think about this?
      (a) Mike – who provides equipment?
         (i) John A – KBO.
      (b) Dave – has an assessment been done on what is funded by whom? Ex: 15 sessions, 8 guaranteed as option. Whichever is more important – breeding or migration season – then the KLMN will fund the more important one.
      (c) John A – maybe with expansion there will be a better site for mist-net capture.
      (d) Mike – capture site active until early August at LAVO.
   (5) Daniel – Data from the mist net effort is very complementary to the point counts, which is the only thing we can afford at the other parks. Do we want to fund only part of the field season? May lose some of the complementarities.
      (a) Dave – breeding data is most used. If KBO had to stop in August, then at least we have the breeding data to combine with MAPS.
         (i) John A – MAPS being more selective of data being collected. Many LAMNA stations now, worth considering to still have both

datasets considered and captured in season to utilize both of the national programs

(6) John A – the $10,000 is in the budget now as a conservative estimate
   (a) Sean – it's in there so that if we need to use all the money, we will. It won't take away from other projects. If the park chips in half, then the remaining $5000 will be for other opportunities such as different analysis of Landbird data.
   (b) Daniel – doesn't want it in the protocol that we will pay all of the mist net effort. Will need to readdress every 5 yrs along with the agreement with KBO
   (c) Elizabeth – John Roth will be here tomorrow to address budget.
      (i) The following day John R. agreed to fund some of the project.

e) John A – it's important to link into KLMN and Partners of Flight; use data to complement park data
   i) Kristin – can the park data be used to see trends in the entire area?
      (1) John A – complements well, will be able to be used to see the different trends in different veg, geography, forest succession stage. If we add analyses into the reports, we could compare relative trends in parks to relative trends in the area.
      (2) Daniel – survival, viability is a wide area thing, landscape region issue
      (3) John A – adds value to both programs with the variety of the mist netting and point counts

Presentation by Jaime on the sampling frames in each park

a) This is really focused on goal 1 listed in the initial presentation by Sean.
b) The point count surveys are complementary to goal 2
c) There are 3 areas of park-specific habitats of interest (Matrix, Riparian, High Elevation)
   i) A few other areas have come up during the meetings that she's noticed are important and specific to individual parks (e.g., Cave entrances, Bald Hills, Shasta Bally).
d) Several things were considered when developing recommendation as to where to survey in the parks, including:
   i) Park-Specific Habitats of Interest
   ii) Bird Conservation
   iii) Statistical Considerations
   iv) Logistical Considerations
   v) Co-location with Vegetation Sites
e) Bird conservation – KBO is looking at Partners in Flight conservation plans and state-wide conservation plans (Department of Fish and Game – OR out, CA coming out) to tie into.
   i) Set of plans for OR (focal and indicator species); set of plans for CA; continental plan (Intermountain West and Pacific) (more general than focal species); and two state-wide conservation action plans

ii) federal momentum tied into monitoring and monitoring within the framework of state and national, adds value to the KBO projects

f) Sampling design:
   i) each day = 1 route
   ii) 1 route = 12 stations
   iii) parks have 25-35 routes, stations spaced 250 m apart on grid around random start point
   iv) not planning on locating points on roads and trails (>100m and <1000m) or on slopes >30 degrees. Using systematic random grid and random sampling points on the random grid

g) This discussion on which sampling frame to survey is partially based on the locations of the 15 most common species in each park from inventory surveys in 2002-2003 (mostly paired riparian and upland surveys)
   i) Crater Lake (35 routes)
      (1) Riparian birds weren't in top 15
      (2) We would get limited inference to only the riparian zone
      (3) Alpine habitat is priority for park
         (a) fewer birds and fewer species here, but there would be a gradient with elevation gain
         (b) Value-added leverage on alpine also includes Clark's Nutcracker
      (4) Matrix – a lot of the top 15 species covered.
      (5) Suggested option: combine matrix and alpine in one sampling frame
      (6) Agreed on Matrix / Alpine Sampling Frame

   ii) Lassen Volcanic (25 sites)
      (1) Alpine – serious logistical restraints
      (2) Breeding season data from PRBO used for analysis
      (3) Limited inference for the riparian zones
         (a) need to think about how to capture the wet meadows as riparian since not yet captured on GIS
         (b) look at NHD data and the KLMN wetland inventory conducted by Paul Adamus form OSU to see if would complement
      (4) Matrix habitat would capture a few more focal species
      (5) Riparian and matrix better option than alpine, further filter bird points based on GRTS and distance from edge
      (6) What's important for the park?
         (a) Mike – riparian
            (i) Important to co-locate with veg
            (ii) Complement mist netting station at LAVO (in riparian)
      (7) Suggested Option: Either Matrix or Riparian
      (8) Agreed on Riparian Sampling Frame

   iii) Lava Beds
      (1) Cave entrances considered, not chosen
      (2) Matrix would capture a sampling of the 15 species

(a) Can make broad inferences to whole park based on matrix sampling, homogeneous landscape
(3) Dave – sounds good. If any importance placed, should be on sagebrush
(4) Suggested option: Matrix
(5) Agreed on Matrix (Entire Park) Sampling Frame

iv) Oregon Caves (4 sites and mist net)
(1) Sample entire park
(2) Option may be to grid the whole park and do a census
(a) Daniel – not exactly homogeneous setting
(b) Elizabeth – point counts will be done in future by the park (26)
(3) Agreed to 4 routes within the current ORCA boundary and running the banding station with funding from KLMN and ORCA.

v) Redwood (30 sites)
(1) Riparian is habitat of interest at park, but serious logistical concerns (extremely thick vegetation, stream noise)
(a) Riparian birds would be captured in matrix
(i) Kristin – yes and no, variable
(2) Bald hills interest – SOD, may want to be considered
(a) Kristin – Bald Hills very different, should be in sample
(b) John A – add factor into GRTS to put 10% of sites in Bald Hills?
(3) Enabling legislation is to protect redwood – consider this in the decision?
(4) Need to have communication on road removal so points now don't become a hardship to get to in the future
(5) Suggested option: Although you won't capture every bird species, matrix would capture the most.
(6) Decision: birds that live in park would be captured in matrix, wouldn't necessarily lose the Bald Hills etc (non-riparian) habitats.
(a) Matrix weighted to Bald Hills? Stratified?
(b) Informally parse out sites for analysis, won't be as robust as whole, but will be informative sub dataset
(c) Can't rely on this though, difference between statistical and biological significance
(7) Coastal scrub cut out by botanist because of slope, poison oak, etc. Cut out of birds too?
(8) Agreed on Matrix Sampling Frame (with the intent that this will include Bald Hills)

vi) Whiskeytown
(1) Riparian constraint – stream noise
(2) Alpine – small percentage but priority habitat
(a) Russ – lots of alpine tossed out because unacceptable terrain, but maybe special case like Bald Hills, stratified for a few there?
(i) Daniel – can't call Shasta Bally its own sampling frame or else need 25 points

(ii) Can meld it like at CRLA and put a few more sites (focal environment) there
(iii)Bird-wise not so unique (vegetation, yes)
(b) Track climate change through the alpine community? Say we are monitoring there a little more intensively due to management goals
(3) Matrix would capture the most focal species
(4) Talk more with Jen and Russ about why Shasta Bally should be considered further. Matrix sounds good to Russ; lump in alpine.
(5) Suggestion: Matrix or Riparian
(6) Agreed on Matrix Sampling Frame with a few sites in the high elevation (Shasta bally) area.

h) Sampling timeframe
i) 2 parks a yr, each visited every 3 yrs
(1) Total sites each yr:
(a) REDW (30) and LABE (25) = 55
(b) WHIS (30) and LAVO (25) = 55
(c) ORCA (4) and CRLA (35) = 39 (leaves time for analysis)
(2) Decided that this is the one to implement
ii) 3 parks a yr, each visited every other yr
(1) Less time for analysis, more stressed for time with other protocols, no leeway for overflow in budget, more reports
(2) More effective (more surveys per dollar) but much tighter schedule
(3) Rejected

Thursday 8/30

Reports presentation by Sean. There are three types of reports that will be developed out of this protocol. An annual summary report, a more intensive analysis and synthesis report, and the KBO Regional Effort Report.

a) Mist netting reports
i) ORCA said its fine to split the mist netting cost
ii) LAVO – Nancy and Mike run nets PRBO and Lassen NF started in1997
(1) no seasonal employees, funded by division-based funds and linked to the two positions
(2) data goes to IBP and PRBO
iii) Daniel – mist netting station in each park? Data complementary to point counts. No money. Works with some base funds from parks combination
(1) LABE – not worth it for breeding season, maybe migration
(2) WHIS – station just outside of the park stream restoration Clear Creek
(a) RCD, BLM, CAFW, FWS, and PRBO
(3) Dave – any more gaps on a larger scale that parks could fill? Look at it that way.
(4) Daniel – as long as partnerships are working at parks outside of the KBO region (LAVO), we can just add to the partnership

(5) Add WHIS and LAVO data from other agencies to make reports, partnership for the demographic info for the park region
(6) Kristin – constant effort banding station that contributes to the MAPS program may pick back up at REDW after absence

iv) John A – there are many trend graphs for counts in the area, lots of metrics and trends can be done with the data
(1) ex: western taniger increasing at a site, purple finch decreasing
(2) Daniel – push for partnerships, ability to analyze outside data so that we can make some determinations about the Klamath region

v) John A – How do we integrate into the analysis the concept of bringing in stations?
(1) Good idea at parks, show how comprehensive the data are and how we are included in the bigger picture
(2) John R – are we separating out neotropicals?
(a) John A – tease this out in the end, where banding data comes in handy
(b) Pete Blancher, Canada, concentration of wintering grounds maps
(i) see where partnerships could be had between birds seen in KLMN and where these birds overwinter
(ii) Who else is responsible for the birds we see?

b) Daniel – scale effect
i) Annual – summary report for each park
ii) Analysis and synthesis – regional level, park summaries, neotropical
iii) KBO effort report – what level? park, regional, national?
iv) Need to balance park-specific with the rest of the scales to make conclusions on larger level, ecological importance

c) Daniel – do you think we'd gain as a network if we go beyond the ORCA station? How would we synthesize info and how often?
i) Dave – Do we have to do a smaller analysis in each park? If KBO has reports done, inferences can be made to what's going on in the parks.
ii) John A – first few yrs where no trend data available, get historical data and do some reports on it
iii) Dave – network funding would be beneficial to get regional info
iv) John A – LTREB grant may be possible to help with more sites

d) Sean and Daniel – what needs follow-up? REDW site, WHIS Clear Creek site, experimental data (fuels treatment at ORCA)
i) Kristin – if money doesn't go through, then are there similar sites that can have same data as REDW
(1) John A – look at 15 species at REDW and see similar stations around that have same species, draw some conclusions
(a) works best with matrix data
(b) puts a regional perspective on it to see regional trends and demographics
ii) John R – how does fuels management techniques go into how we do analysis techniques and frequency could factor into goals of fuels management

(1) John A – doing fuels analysis in Klamath canyon that relates to this as they treat more and more landscape over time, how this influences bird distribution, etc.
(2) Daniel – our design is more comprehensive, not experimental. Shouldn't be a fundamental constraint on the protocols

e) Dave – is 25-35 points per park just barely making it? If there's more money, should more points be added?
   i) Daniel – not really, there's a plateau of benefits gained per effort.
      (1) should ask what the variance is in the first few yrs and see if needs to make more

f) Sean – based on time schedule, reporting will follow
   i) Annual reports
      (1) Sean – automated with data once entered, updates on protocols, 2-3 pg report summary on two parks done each yr
      (2) John A – list specifically the table captions that will be in annual reports in the SOP to make it clear what data will be included
      (3) Jamie – effort info from past yrs, summary of current and historic effort, how it's changed yr to yr, relative abundance of species in 2003, 2008, 2011
         (a) Summary of bird detections would be in one yr, not yr to yr
         (b) Daniel – detect species flagged as imp, species list, relative abundance, footnotes on conservation status
         (c) Effort in past yrs will provide essential context, easier to understand, easier to pass onto interpretive staff, superintendents
      (4) John R – should be some data that would supplement if there is variance (temp, weather, etc.)
         (a) John A – discussion section on any outliers
      (5) Kristin – where is background data? Like why these are the 15 species, how we got to the point of where we are
         (a) Protocol – very specific SOPs
      (6) Dave – what level of detail in detection tables? New species/densities?
         (a) Daniel – public interest highlight section?
         (b) Jamie – rare birds, new birds definitely, other stuff probably not (hard to say pop doubled over such a short time period)
         (c) Daniel – anything less than 10 yrs, freak out factor, keep major conclusions out at shorter times
         (d) John A and Sean – species lists will be available, built into database
         (e) John R – disclaimer on data on range of variability
      (7) Dave – conclusion at end, success, results, make it clear what we have done, make it so we are seen to have done something good
         (a) Superintendents see we are contributing to something good
         (b) Daniel – related to GPRA goals, numbers
         (c) Sean – think about the audience is good pt. Something to have for the parks, not scientists.
         (d) John A and Jamie – public highlights, comprehensive checklists, not other taxa seen (share outside of report)

(e) Keep it generally positive!

(8) Discussed layout:
   (a) Introduction (info that the Superintendent will read. Exec sum?)
   (b) Count info (GPRA, transects, pts, species found)
   (c) Highlights (and any outreach done, presentations given, papers published where data included)
   (d) Table of relative abundance
   (e) Summary of checklist data (birds detected not captured on survey)
   (f) Conclusion

(9) One report each yr, so each report has 2 parks
   (a) Dave – have summary statement at beginning for each park in report
   (b) ORCA – what was done, effort, species, new stuff, couple tables each year not the full info on the banding etc leave this for more summary reports
   (c) Vegetation data in effort part of report
   (d) More detailed in Analysis and Summary report

ii) KBO effort report – annually

iii) Analysis and synthesis – summary info every 3 yrs (yrs 3, 6, 9, …)

(1) Daniel – flesh out the regional comparisons in the longer reports, like analysis and synthesis

(2) Comprehensive synthesis report – 10 yrs out all data from all monitoring programs see what they tell us about he parks as a whole

(3) Same report every three years with more data, or more unique?
   (a) John A –
   (b) Yr 1 (summary 1) – detectablility or regional trend monitoring
   (c) Yr 3 (summary 2) – regional trend
   (d) Yr 9 (summary 3) – power analysis

(4) Bird-habitat relationships and detectability should go hand in hand for management reports, especially for fire

(5) Daniel – should be some element of report that is consistent even through other things change
   (a) Relative abundance over six parks, synthesis across parks?
   (b) Mist net summary for all the parks that have them?
   (c) Multivariate analysis of the parks? How are we capturing this diversity in the parks? Won't change much after done one time

(6) Sean – list some things to look at over time, timeframes and cycles to use, but leave it a little open in terms of what we will analyze

(7) John A – let's get list of questions about what we will want to answer and see what ones we will be able to answer in different time periods (e.g., monitoring, research, and management)
   (a) Daniel – do you have the power and how do you detect trends in species over a reasonable amount of time? (peer reviewers)
   (b) Daniel – need to be monitoring questions
   (c) Sean – see patterns in the datasets. If some aren't tied to management help find which ones are from what causes.

(d) Questions: (don't answer all today, have the questions there for further discussion and if there are funds later on).
    (i) What are the long term trends in region of birds most abundant in each park? What are the long term trends of PIF focal species in each park? What parks aren't following the regional trend?
    (ii) What are the demographic parameters on the banding data?
    (iii) What is the composition of bird communities over space and time? (multivariate)
        1. Space data will come before time
    (iv) What species are driving community and composition shifts? What groups of species?
    (v) Which changes are anthropogenic and which aren't?
        1. What can we do about the anthropogenic ones?
    (vi) Are the parks acting as refuges for breeding birds?
    (vii) How are the parks contributing to PIF objectives?
    (viii) What is our power to detect trends?
        1. Do we evaluate the data we will be collecting based on our pilot study and get our power analysis now?
    (ix) What are the groups of species (guilds) clusters of species that tend to occur together?
    (x) What are trends in non-native bird species?
    (xi) Are there significant differences in detectability among surveyors and habitat types?
    (xii) What are the structural and plant composition variable components that drive bird distribution across the park and the network?
    (xiii) What is driving the change? Disease, management? Research question that would be supported with the data provided from the answers of these questions.
(e) Goals:
    (i) Info that would encourage or support finding what anthropogenic changes are going on
    (ii) Detect abnormal amounts of change

(8) Do we want to get status estimates every three yrs or only after the first time a park is visited?
(a) John A – after 3 yrs do community composition picture, very interesting for the superintendent
    (i) See if there are any major changes after every cycle, redo status estimates

(9) Kristin – bigger picture is more interesting. If we have the ability to do that then we should; not in vacuum.
(a) GPRA goals are about improvement (ex: x acres bringing up to a standard that will aid in conservation of a species)

(10) General regional summary for the 3 yrs
(a) What birds found in each park?
(b) Relative abundance for the entire network

(c) Averages for bird species across several parks
(d) Table: KLMN summary of point count data, relative abundance
(e) Over the past 3 yrs, we have done x point counts, x transects – Effort
(f) What will be new and not just repeat of annual reports
(g) John R – what info can we say in 3 yrs that is local or regional effect?

(11) Daniel – develop calendar chart and put it in protocol about what will be developed in each time frame

2) Logistics discussion
   a) KBO Contact – Jamie
   b) Network Contact – Sean
   c) One person in each park as the park contact for lodging, permitting, etc.
      i) LAVO – Mike
      ii) REDW – Kristin
         (1) Backcountry permits may be a problem at Redwood
      iii) WHIS – Russ
      iv) LABE – Dave
      v) ORCA – John
      vi) CRLA – To be determined
   d) Radios for the parks and what is the equipment protocol – falls into the contacts
   e) Satellite phones?
   f) Email shortly about housing, keys, etc.
   g) John A – hope to get out in the field this fall and start monumenting sites
   h) Getting to site:
      i) get to site in the afternoon,
      ii) sleep at point 1 if possible,
      iii) count in the morning
   i) Packet of info for each park after the spots are selected
   j) Mike – research permits – make sure to get done: start in Jan of yr you are going to do it, 30-60 days just for the compliance process. Get permit process started ASAP for monitoring
      i) We fill out for I&M (5 yr permit), subset for each park inside, update each yr
      ii) Talk more about 3 yr permit and if we can put all parks in same permit
      iii) Do we have to be considered outside researchers for the parks?
   k) Monumenting sites? Need to efficiently get to the point
      i) Transects with 12 sites per transect visited every 3 yrs, want to be as close as possible
      ii) Flagging? Gets lost? Wrap nearest tree and mark some trees nearby
         (1) Flagging is a problem in the parks
      iii) Metal tags? Just makes sure you are at the right spot, doesn't help you get to the point
         (1) LABE – put up flagging and take down or put rebar with metal tag
         (2) WHIS – rebar probably wouldn't be a problem
      iv) I&M sign on the site (plastic?) and flagging
         (1) Parks will get back to KLMN / KBO if this will work or not
      v) John R – permanent task agreement about flagging etc that doesn't change.
         (1) Daniel – cooperative agreement renegotiated every 5 yrs, put in protocols

l) Site selection
   i) REDW – will be arduous to select points over and over for revisits
   ii) Daniel – we can defend either approach
   iii) Split panel has mark against for feasibility and ease of analysis